

Chemistry: Unit 1: Lab Safety & Techniques: Lab #2: Laboratory Techniques

Procedure:

1. Pick a tool that no one else is using.
2. Read the directions below.
3. Gather the materials (if necessary).
4. Follow the directions and practice the activity until you are comfortable.
5. Answer the question about each tool.
6. Make sure you complete all the tools.

Using a Balance

Materials:

Balance
Beaker
Spatula
Salt
Weigh boat

Procedure:

1. Weigh the beaker. How much does it weigh?
2. Place one weigh boat on the balance and tare it.
3. Put 13.6 grams of salt on the balance.
4. Answer the following question:

How was weighing the beaker and the salt different?

5. Clean up your materials!

Measuring Liquid Volume Using a Graduated Cylinder

Materials:

Large graduated cylinder
Small graduated cylinder
Colored Solution

Procedure:

1. Measure 56 ml of the colored solution.
2. Which graduated cylinder did you use?
3. Measure 9.8 ml of the colored solution.
4. Which graduated cylinder did you use?
5. Clean up your materials!

Measuring Volume Using a Pipette

Materials:

Colored Solution
6 Test tubes
Test tube rack
Water
2 Graduated pipettes, 10 ml
Pipette pump

Procedure:

1. Put the 6 labeled test tubes in order in the test tube rack.
2. Put the water and colored solution in the test tubes according to the chart below using the graduated pipettes.

Test Tube	Water (ml)	Colored Solution (ml)
A	5	0
B	4	1
C	3	2
D	2	3
E	1	4
F	0	5

3. Answer the following question:
Each test tube has a different shade. Which is the lightest? Darkest? Why?
4. Clean up your materials!

Lighting a Bunsen Burner
(do this before Heating a Test Tube)

Materials:

Bunsen Burner
Lighter or Matches

Rubber Tubing

Procedure:

1. Check your tubing for holes or cracks.
2. Check the settings on the Bunsen burner (air vent and gas vent should be close to closed).
3. Attach the tubing to the gas jet.
4. Attach the other end of the tubing to the burner.
5. Place the lighter over the end of the Bunsen burner tube, lit.
6. Turn on the gas.
7. When the Bunsen burner lights, remove the lighter.
8. Turn off the gas.
9. Answer the question:

What do you do if the flame on the lighter goes out before you've lit the Bunsen Burner?

10. Clean up your materials!

Heating a Test Tube
(Only to be completed
AFTER Lighting a Bunsen Burner)

Materials:

Bunsen burner & tube
Lighter
Pyrex test tube
Colored solution
Test tube tongs

Procedure:

1. Put a few milliliters of colored solution in the test tube.
2. Light the Bunsen burner.
3. Put the test tube in the tongs.
4. Why shouldn't you point the test tube towards a person?
5. Clean up your materials!

Transferring Chemicals

Materials:

Colored solution	Stirring Rod
Baking soda	Spatula/Scoop
Vinegar	2 Transfer Pipettes
Test tube	

Procedure:

1. Put a few ml of the colored solution in the test tube using a pipette.
2. Put a scoop of baking soda into the tube and stir.
3. What happened?
4. Put a few ml of vinegar in the test tube and stir.
5. What happened?
6. Why do you think the solution changed color?
7. Clean up your materials!

Measuring Temperature

Materials:

Thermometer

Beaker

Water

Beaker Tongs

Hot Plate

Procedure:

1. Turn on the hot plate to about 7.
2. Put about 50 ml of water in the beaker and put it on the hot plate.
3. Let the water heat for about a minute.
4. Measure the temperature of the water. What is the temperature?
5. Which unit of temperature will we be using in lab, Celsius or Fahrenheit?
6. Clean up your materials!

Conclusion:

- a. What did you learn during this lab? What was the purpose of the lab?
- b. What went well and why?
- c. What did not go well and why?
- d. What were your sources of error? What could you have done to minimize the sources of error?